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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,098	10/26/2001	Suzanne D. Rogers	788190/98002US	7520

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EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/069,098	Applicant(s) ROGERS, SUZANNE D.	
	Examiner Medina A Ibrahim	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34,39,56,82,87 and 109-113 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34,39,56,82,87 and 109-113 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Applicant's response filed 02/04/04 in reply to the Office action of 08/27/03 has been entered. Claims 35-38, 57-61, 83-86 and 108 have been cancelled. Claims 34, 56, 82 and 109-113 have been amended. Therefore, claims 34, 39, 56, 82, 87 and 109-113 are pending.

All previous rejections and objections not set forth below have been withdrawn in view of Applicant's amendment to the claims.

Claim Rejections - 35 USC § 112

Claim 56 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is indefinite for failing to recite proper Markush group. *Carex*, *Scirpus* and *Juncus* are genus, while *Typha latifolia* is species. Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 34, 39, 56, 82, 87 and 109-113 are rejected under 35 U.S.C. 103(a) as being obvious over each of Saxena et al (5, 477, 000) and Nehra et al (US 5, 589, 617), in view of Li et al. (WETLANDS (1996), VOL. 16(4) pp. 410-415).

The claims are drawn to a method for regenerating a freshwater wetland emergent monocot plant including plants from the genus *Carex*, *Scirpus*, *Juncus*, and *Typha* and the species of *Juncus effuses*, *Carex lurida*, *Scirpus polyphyllus*, and *Typha*

angustifolia, the method comprising providing a sample of said plant, forming a callus from said sample, and inducing shoot/root development or the formation of somatic embryo from said callus, thereby regenerating the plant. The claims do not recite specific explants and growth medium.

Saxena et al teach methods of regenerating plants from tissue cultures of explants via organogenesis and somatic embryogenesis. Saxena teaches isolation of an explant from a seedling, and culturing the explant on medium supplemented with growth regulators to allow growth and differentiation. Saxena teaches explants which are differentiated into shoots which later develops roots to produce a complete plant and vice versa, and explants differentiated into somatic embryos which are capable of developing into whole plants (see at least columns 1-4, 11-12, and Examples 1-4). At the paragraph bridging columns 2 and 3, Saxena reports "(t)he success in regenerating plants from a wide variety of species via organogenesis or somatic embryogenesis in plant tissue culture by manipulating quantitative interaction of phytohormones has resulted in a definite pattern of experimental approach to achieve regeneration".

Nehra et al teach a method of forming somatic embryos using different segments of scutellum of wheat and barley for culture, and development of callus and somatic embryos from said segments and regeneration of plants (columns 2-4). At column 2, last full paragraph, the cited references suggests that successful genetic engineering of a desired plant depends upon the availability of tissue culture and regeneration methods of the desired plant.

Each of Saxena and Nehra et al do not teach a freshwater monocot plant.

Li et al teach a method of regenerating *Spartina cynosuroides*, a freshwater wetland emergent monocot plant, the method comprising initiating callus from the mesocotyl of seedling grown on a culture medium, inducing shoot development from said callus to form shoot by transferring the callus to shoot regeneration medium, and inducing root development from the shoots by transferring larger shoots to root regeneration medium, wherein the regenerated plants set viable seeds (see pages 411-412, Methods and Materials). Li et al also teach the ecological importance of freshwater monocot plants and the importance of developing tissue culture and regeneration methods for these plants for the production of improved varieties with superior characteristics for wetland restoration (see at least the abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the plant tissue culture and regeneration methods taught by each of Saxena et al and Nehra et al, and to modify that method by incorporating the method taught by Li et al with any other freshwater wetland emergent monocot plant, given the ecological importance of freshwater monocot plants as suggested by Li et al, and given the importance of plant tissue culture and regeneration methods in plant genetic engineering as suggested by Nehra et al. Given the success in regenerating plants from a wide variety of species as suggested by Saxena et al, one skilled in the art would expect a reasonable expectation of success in regenerating plants of the genus *Carex*, *Scirpus*, *Juncus*, and *Typha*. Thus, the invention as whole was a *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

Remarks

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No claim is allowed.

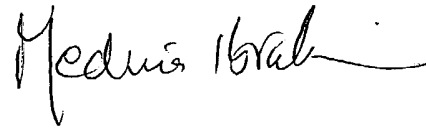
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM . Before and After final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (571) 272-0804.

4/16/04

Mai

A handwritten signature in black ink, appearing to read "Medina Ibrahim", with a long horizontal flourish extending to the right.